

LISTING OF THE CLAIMS

The following listing of claims replaces all previous claims, and listings of claims including the claims filed June 25, 2009, in the application:

1. (Previously Presented) A method of inducing homologous recombination between a gene and a DNA sequence comprising the step of controlling transcription of the gene using a transcription promoter located 3' to the DNA sequence,
wherein said recombination occurs at a genetic locus in a eukaryotic somatic cell,
wherein the gene is located 3' to the promoter; and
wherein the DNA sequence is similar to the gene for which homologous recombination is induced.
2. (Previously Presented) The method of claim 1, wherein the cell is a DT40 cell.
3. (Cancelled)
4. (Previously Presented) The method of claim 1, wherein the gene is under additional transcription control by a cis-acting region comprising an enhancer or a nuclear matrix attachment region (MAR), or both.
5. (Previously Presented) The method of claim 1, wherein the gene and the DNA sequence are exogenous, comprising the following steps:
 - (a) ordering on a vector beginning with the 5' end, the DNA sequence, the transcription promoter 3' to the DNA sequence, and the gene 3' to the transcription promoter,
 - (b) introducing the vector into a cell; and

(c) incorporating the DNA sequence, the transcription promoter, and the gene into a chromosome.

6. (Previously Presented) The method of claim 5, wherein the vector further comprises an enhancer or a nuclear matrix attachment region (MAR), or both.

7. (Previously Presented) The method of claim 5, wherein the transcription promoter is an inducible promoter.

8. (Previously Presented) The method of claim 7, wherein the inducible promoter is a tetracycline inducible promoter.

9. (Previously Presented) The method of claim 5, wherein the gene is an enhanced cyan fluorescent protein (ECFP) gene.

10. (Previously Presented) The method of claim 5, wherein the DNA sequence is an enhanced green fluorescent protein (EGFP) genetic sequence.

11. (Previously Presented) The method of claim 4, wherein the enhancer is a chicken antibody light chain gene enhancer (3' enhancer), and the nuclear matrix attachment region (MAR) is chicken-derived.

12. (Previously Presented) A cell, wherein homologous recombination has been induced according to the method of claim 1.

13. (Previously Presented) A recombinant gene produced by homologous recombination induced according to the method of claim 1.

14. (Withdrawn/Previously Presented) The recombinant gene of claim 13, wherein the recombinant gene encodes a protein.

15. (Previously Presented) A vector for inducing homologous recombination between a gene and a DNA sequence, comprising a transcription promoter for controlling transcription of the gene, wherein said gene, said DNA sequence, and said promoter are arranged in an order beginning with the DNA sequence, the transcription promoter 3' to the DNA sequence, and the gene 3' to the transcription promoter,

wherein the DNA sequence is similar to the gene for which homologous recombination is induced.

16. (Previously Presented) The vector of claim 15, further comprising

i) an enhancer that is located 3' or 5' to the gene; or

ii) a nuclear matrix attachment region (MAR) that is located 3' or 5' to the gene;

or

iii) both, wherein the enhancer is located 3' or 5' to the gene, and wherein the MAR is located 3' or 5' to the enhancer.

17. (Previously Presented) The method of claim 1, wherein the transcription promoter is an inducible promoter.

18. (Previously Presented) The method of claim 17, wherein the inducible promoter is a tetracycline inducible promoter.

19. (Previously Presented) The method of claim 1, wherein the gene is an enhanced cyan fluorescent protein (ECFP) gene.

20. (Previously Presented) The method of claim 1, wherein the DNA sequence is an enhanced green fluorescent protein (EGFP) genetic sequence.

21. (Previously Presented) The method of claim 6, wherein the enhancer is a chicken antibody light chain gene enhancer (3' enhancer), and the nuclear matrix attachment region (MAR) is chicken-derived.

22. (Previously Presented) The method of claim 4, wherein the cell is a DT40 cell.

23. (Previously Presented) The method of claim 5, wherein the cell is a DT40 cell.

24. (Previously Presented) A cell, wherein homologous recombination has been induced according to the method of claim 4.

25. (Previously Presented) A cell, wherein homologous recombination has been induced according to the method of claim 5.

26. (Previously Presented) A method of inducing homologous recombination between a gene and a DNA sequence comprising the step of controlling transcription of the gene using a transcription promoter located 3' to the DNA sequence,
wherein said recombination occurs at a genetic locus in a eukaryotic somatic cell,
wherein the gene is located 3' to the promoter; and
wherein the DNA sequence has 60% or greater sequence identity to the gene for which homologous recombination is induced.

27. (Previously Presented) A vector for inducing homologous recombination between a gene and a DNA sequence, comprising a transcription promoter for controlling transcription of the gene, wherein said gene, said DNA sequence, and said promoter are arranged in an order beginning with the DNA sequence, the transcription promoter 3' to the DNA sequence, and the gene 3' to the transcription promoter,
wherein the DNA sequence has 60% or greater sequence identity to the gene for which homologous recombination is induced.